

Translation

PATENT COOPERATION TREATY

PCT/EP2003/008728



PCT

Rec'd PCT/PTO 22 FEB 2005

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference S/Li-EckartZ	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008728	International filing date (day/month/year) 07 August 2003 (07.08.2003)	Priority date (day/month/year) 20 August 2002 (20.08.2002)
International Patent Classification (IPC) or national classification and IPC C09C 1/66		
Applicant ECKART GMBH & CO. KG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.	
<input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of _____ sheets.	
3. This report contains indications relating to the following items:	
I <input checked="" type="checkbox"/>	Basis of the report
II <input type="checkbox"/>	Priority
III <input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV <input type="checkbox"/>	Lack of unity of invention
V <input checked="" type="checkbox"/>	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI <input type="checkbox"/>	Certain documents cited
VII <input type="checkbox"/>	Certain defects in the international application
VIII <input type="checkbox"/>	Certain observations on the international application

Date of submission of the demand 16 March 2004 (16.03.2004)	Date of completion of this report 20 October 2004 (20.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008728

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-10 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-12 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/EP 83/08728

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6, 8-12	YES
	Claims	7	NO
Inventive step (IS)	Claims	1-6, 9, 10	YES
	Claims	7, 8, 11, 12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents:

D1: US-A-3941584
D2: EP-A-0499817
D3: WPI & JP(A) 60229966
D4: JP(A) 09165544
D5: US-A-4321087

2. Novelty (PCT Article 33(1) and (2))

D1 (US-A-3941584) discloses metal flakes which contain 15 to 70% copper and 10 to 70% zinc and are obtained by a grinding process. The subject matter of the present application differs in that a vacuum deposition process is used, which results in significantly smoother plane-parallel particle surfaces, and therefore better-defined optical properties than are obtainable by mechanical processes.

D2 (EP-A-0499817) discloses copper alloy powder pigments to which flake pigments are added. The subject matter of the present application differs in that copper alloy flake pigments are obtained by a vacuum deposition process.

The subject matter of claims 1 to 6 can therefore be considered novel.

D5 (US-A-4321087) discloses a vacuum deposition process similar to that of the present application for producing aluminium or copper flakes. A release coat is applied to a substrate, a metal film is deposited on the release coat and the release coat is then dissolved, thereby detaching the metal film. Finally the metal film is comminuted and dispersed (column 2, line 59 to column 3, line 6). For the purposes of the assessment of novelty and inventive step the phrase "process for producing" as used in claims 7 to 12 is interpreted as meaning "process suitable for...". This reduces the limitation of the definition of the process to just the process parameters. The subject matter of claim 7 cannot therefore be considered novel.

The subject matter of claim 8 differs from that of D5 in that the substrate is dissolved. The features of claims 9 to 12 are not disclosed either in D5 or in any of the other cited documents. The subject matter of claims 8 to 12 can therefore be considered novel.

3. Inventive step (PCT Article 33(1) and (3))

The problem addressed by the present invention is that of producing a bright gold metallic-effect pigment with plane-parallel surfaces and thin uniform particles. The problem is solved by a copper-based alloy obtained in the form of flake-like pigment particles by the deposition process defined in claim 1. The application also relates to a deposition process as defined in claims 7 and 8. The closest prior art documents are D1 for the product and D5 for the process.

The prior art does not suggest modifying the known products to obtain metal flakes containing copper and another metal alloy component, as defined in claim 1. The subject matter of claims 1 to 6 therefore involves an inventive step.

D5 (US-A-4321087) discloses a vacuum deposition process as in the present application for producing aluminium or copper flakes. For the purposes of the assessment of novelty and inventive step the phrase "process for producing" as used in claims 7 to 12 is interpreted as meaning "process suitable for...". This reduces the limitation of the definition of the process to just the process parameters.

Claims 8, 11 and 12 define process features that are obvious to a person skilled in the art wishing to produce metal flakes by deposition. The sequence of steps defined in claim 8 (application, detachment and comminution) does not require the exercising of inventive skill, and the alternatives defined in claims 11 and 12 for applying the metal film are a selection of processes which are conventional in this field. The subject matter of claims 8, 11 and 12 cannot therefore be considered inventive.

None of the cited documents explicitly disclose a process in which several alloy components or an alloy and other alloy components are vaporised as in claims 9 and 10. There is nothing in the prior art to suggest modifying the deposition process of D5 so as to deposit flakes composed of an alloy. Surprisingly, the applicant has succeeded in carrying out just such a simultaneous deposition process. The subject matter of claims 9 and 10 can therefore be considered inventive.